

COMPREHENSIVE SUSTAINABLE ENERGY COMMITTEE

Meeting Minutes (final)
January 20, 2015

Pursuant to a notice duly filed with the Town Clerk, a meeting of the Comprehensive Sustainable Energy Committee was held on Tuesday, January 20, 2015 at 7:30 pm at the Harvey Wheeler Community Center. Present were Committee members Gordon Brockway, Sue Felshin, Gilda Gussin, Jane Hotchkiss (co-chair), Mark Myles and Alan Whitney (clerk); committee members Jill Appel (co-chair) and Bill Lehr were absent. Also present were Jan Aceti (CMLP Energy Conservation Coordinator), Pamela Cady (Town Energy Manager) and Concord residents Brian Foulds and Bradley Hubbard-Nelson.

Meeting minutes

The draft minutes of the December 2, 2014 and January 6, 2015 meeting were discussed and amended. *Ms. Felshin moved that both sets of minutes be accepted as amended; Ms. Hotchkiss seconded; passed unanimously.*

Upcoming Committee Meetings

The next CSEC meetings are scheduled for February 10, 2015 and March 10, 2015. Mr. Brockway agreed to compose a skeleton agenda to guide discussions over the next 6 months of CSEC meetings and to schedule the next six months' expected meeting dates (second Tuesday) and location (Harvey Wheeler).

Letter from CSEC Regarding Sustainability at Junction Village

Ms. Felshin reviewed her updates to her draft letter to the Board of Selectmen recommending goals and metrics for sustainability for the Junction Village development. After some discussion, *Ms. Hotchkiss moved to accept the letter as updated by Ms. Felshin; Ms. Gussin seconded and the motion was passed unanimously.* The approved version of the letter is attached to these minutes.

Greening Your Heat Program

A general discussion arose about the larger goals of the pilot GYH program beyond weatherizing ~150 Concord homes. Ms. Gussin suggested that the goals should be to learn how to test methods of air-sealing/insulation and to scale the pilot program to a much larger population, but also with attention to how best to capture people's interest and change behavior to further sustainability goals. Ms. Appel stated the pilot program should also provide a basis for determining the most effective marketing and communications approach for an eventual expanded GYH program.

Ms. Gussin, representing the CSEC Greening Your Heat sub-committee (Ms. Appel, Ms. Felshin, Ms. Gussin, Ms. Aceti [CMLP], Pamela Cady [Town Energy Manager], Tim D'Souza [Sagewell], Peter Nichol [CCHS teacher] and Ashley Yousefi [CCHS student]), presented the GYH marketing plan with the assistance of a slide show (attached).

A discussion followed covering a wide range of topics, including social marketing, tools, barriers, role of affinity groups and team leaders, including the following:

- Ms. Cady pointed out that Belmont, which engaged in a program similar to GYH, did not get a mad rush of customers, and expects that it will take some time to ramp up the Concord effort.
- Could be useful to speak with Concord contractor Mark Garvey (AirSealing America) to get a better understanding of air-sealing activity and extent in Concord.
- Possible additional approaches to attract more people to GYH:
 - Target people through realtors.
 - Target recent purchasers of old homes.
 - Target people who have pulled building permits.
 - Offer financial or non-financial incentives to teams?

- Ask affinity-group leaders what motivates them.
- Lots of leaders have experience; find out what works for them.
- Leverage off kids' interest (generated by school curriculum on sustainability) to educate parents.

A list prepared by the GYH Working Group of more than 20 potential affinity groups was circulated to CSEC members and meeting attendees, who were invited to sign up as GYH liaison to one or more these groups. The role of each liaison is to identify a team leader within the affinity group and work with them as necessary to promote the GYH program within their group.

Ms. Cady announced that the GYH Program Manager contract had been signed by Sagewell, Inc., just that morning. This means there is (or very soon will be) an official GYH manager with a phone number and official GYH website. Ms. Cady is working on developing a 'savings calculator' that can help quantify weatherization/insulation savings for homeowners. It was decided by consensus that the program would cover homes heated with wood; this simplifies the calculation of which homes are covered, since homes with any natural-gas heat will be covered by Mass Save and all other homes will be covered by GYH regardless of whether no, some, or all heat is provided by wood.

The target is to go 'live' on Friday, January 30, one day after an article about GYH is published in the Concord Journal; must be sure that this article accurately reflects the content and rules of the GYH program; possible follow-up article(s) as the program progresses, possibly recognizing team leaders and success stories. *Ms. Felshin moved that the GYH subcommittee be empowered to create a submission to the Concord Journal that accurately describes the GYH program; the motion was seconded by Mr. Myles and passed unanimously.* Ms. Felshin will shepherd the article through the Concord Journal.

Ms. Cady asked if Sagewell would take phone calls on weekends. Ms. Aceti said that this subject has not been raised with Sagewell, but that Sagewell expects lots of evening phone calls to 9pm.

Due to privacy concerns, the thermal images captured by Sagewell will not be used by the GYH program at this time other than to identify the 100 'leakiest' homes; the images will be offered (sans ID information) as a learning tool for high school students

The draft GYH website was reviewed and suggestions were made for improvement; these suggestions will be passed on to Sagewell.

The meeting adjourned at 10:15 pm.

Respectfully submitted,
Alan Whitney, clerk

Attachment 1: Letter to Board of Selectmen re Junction Village development

Attachment 2: Slide presentation on GYH marketing program

Attachment 1: Letter to Board of Selectmen re Junction Village development

Memorandum

Date: 30 January 2015

To: Board of Selectmen

Cc: Concord Housing Development Corporation

From: Comprehensive Sustainable Energy Committee

Re: Junction Village sustainability opportunities

Dear Board of Selectmen,

We write to you to recommend goals and metrics for sustainability for the proposed Junction Village development consisting of affordable assisted living, open space, and a possible small group home. In 2011, you adopted Sustainability Principles on behalf of our town, and these principles of course apply to development of Junction Village and to the Concord Housing Development Corporation as they do to all Town actions and bodies.

Because Junction Village is a Town-associated development, we have a rare opportunity to take the long view, and invest in short-term elevated capital costs in order to gain much larger long-term savings due to reduced energy use. As sustainable development rapidly increases worldwide, the marginal capital cost of sustainable development is rapidly decreasing. We bring your particular attention to this point: **Designing for lower overall consumption is the most important feature for sustainability** because it enables installation of smaller utilities as well as lesser consumption over time. With your support, Junction Village could not only add lightly to Concord's footprint, but could also serve as an example for assisted living development throughout the state and nationally. In fact, because demand for 'net zero' and otherwise green buildings is growing rapidly, the developers and builders of Junction Village could realize enormous market advantage and positive reputation by integrating sustainability to the greatest possible extent.

CSEC stands ready to assist in seeking grant money and with advice and assistance toward sustainable development, and is the obvious choice for coordinating and representing the Town's sustainability interests. As an initial step, we offer specific suggestions regarding ways to build sustainability into Junction Village; please see the attached addendum. Further, we note that a good sustainability plan requires that these issues be considered early and throughout the design process. By the time a building application is submitted, it is often too late to make changes without incurring unnecessarily high costs and pitting interests against one another that need not have been in conflict. Therefore we ask for the opportunity to review Junction Village plans as early as possible in the design process while specifications are under development. Involving CSEC early and throughout the design and approval process offers the best strategy for achieving timely consensus on plans that are consistent with the Town's sustainability goals. While we understand that the Board of Selectmen has no power over the day-to-day operation of the CHDC, a strong recommendation and support by the Board for direct and on-going CSEC participation to ensure sustainability goals are a key consideration in the Junction Village development would demonstrate strong leadership consistent with the Town's strategic plans and best interests.

Sincerely,



Sue Felshin

For the Comprehensive Sustainable Energy Committee



Mark Myles

Addendum

Suggested opportunities for increasing the sustainability of Junction Village:

1. **Insulation and siting:** The building(s) should be sited and oriented for maximum passive energy value and built with optimum wall insulation, low-e window coatings, reflective or light-colored roofing, and other features of net-zero building construction. Energy-efficient construction materials and techniques that can achieve substantial insulation improvements over common construction practice are in wide use, including in Concord in the Riverview complex and several newly constructed Now House passive energy single-family homes. An important concept in very energy efficient buildings is that the cost of insulation offsets the costs of installing and running heating and cooling equipment. This financial benefit of 'hyper insulating' is often realized after capital costs are spent, so it is important to consider Life Cycle Costing to minimize the overall costs of the building.
2. **Energy sources:** Use cogeneration, closed-loop ground source geothermal heat pumps, air source heat pumps. Heat pumps offer a more efficient alternative for the air conditioning (A/C) that surely will be required for an assisted living complex. Perhaps heat pumps can provide all needed heat and A/C, but even if not, they can have a large impact on reducing fossil fuel consumption.
3. **Siting of utilities:** With its location by the Assabet River and Nashoba Brook, flooding is likely. To reduce embodied energy costs, utilities should not be located at the basement or ground floor levels. Any air source heat pump units for the ground floor should be mounted well above ground level. "Hundred year flood" levels have been based on past climate, not future climate, and the building should be planned for much more severe flooding.
4. **Energy production:** Solar panels should be included to the greatest practical extent, including as canopies over parking (which not only generates power but also reduces heat absorption by pavement and shields cars from heat and snow). If fossil fuel use is required, cogeneration can be used to generate electricity as well. As noted in item 1, costs of insulation should be weighed against the costs of energy. Reduced energy use vs. local energy production should be weighed according to lifecycle sustainability including embodied energy, maintenance, and disposal as well as reduced operating energy consumption.
5. **Lighting:** High lighting levels are frequently neither safer nor more comfortable, especially outdoors. LED lighting is by far more energy efficient than other lighting types, and has the additional advantage of very long life in service. Lighting design should consider color temperature and brightness to assure that the light environment is both pleasant and useful. Outdoor lighting should not only cast no light upwards but should also avoid casting light sideways as it causes glare and eyestrain especially among the elderly. Lighting should be directed and shielded to avoid offsite spillage and spillage onto onsite areas that don't need lighting. Lighting should be programmable, controlled by photo cells, and/or manually controllable from a central location, to allow lighting to be reduced or turned off during overnight hours and when locations are unused.
6. **Water and wastewater:** We can expect an assisted living complex to use water at

a high rate due to the need for institutional-level cleanliness. If Massachusetts regulations allow, the building should be plumbed with separate piping for black water and gray water, and the gray water should be treated and released on site, reducing the impact on the sewer system and maintaining groundwater levels. Onsite floodwater storage should be provided through rain gardens and/or larger bioretention areas. Use of 'green' cleaning products and methods is a healthier alternative to using more toxic cleaning preparations (important for the elderly), and will substantially reduce unnecessary pollution to ground and surface water. The Toxics Use Reduction Institute, a Massachusetts state agency, can provide assistance in selecting and using less hazardous substances that provide excellent cleaning performance with good cost effectiveness.

7. Trash and recycling: Food waste should be collected for compost. Although on-site composting of plant waste would save on transportation, it may be more efficient to send compost to a facility that can compost animal and paper waste as well as plant waste. On the other hand, several assisted living facilities have found that providing an opportunity for gardening can be a very attractive activity for residents; compost can be used for this as well as other land care needs. When food service is provided, the facility should use reusable containers rather than, e.g., single-use plastic utensils, single-use plastic and foil containers, etc. No single-use, single-serving bottled water should be made available by the facility. Water fountains should be provided in convenient locations in public areas, both indoors and outdoors. Seek ways to minimize medical waste. In public places, trash and recycling bins should always be co-located because many people throw away both trash and recycling in the first set of bins they come across; trash, recycling, and compost bins need to be visually distinguished in ways that will be clear to seniors with impaired vision.
8. Transportation: Vehicle parking should be minimal and should be located in a way that minimizes the amount of driveway needed. Provide bicycling parking. Provide electric vehicle (EV) charging stations for staff; consider EVs for all vehicles solely associated with Junction Village.
9. Pavement: Minimize pavement, minimize impervious pavement, and use light-colored pavement to avoid absorbing heat.
10. Landscaping: Organic land care methods should be used exclusively. Organic land care achieves excellent results without using toxic herbicides or synthetic fertilizers that can contribute to health problems in residents. Organic land care is neither more expensive nor more labor intensive than landscaping that depends on toxic substances. The Northeast Organic Farming Association has, for many years, promoted organic practices, and now certifies landscape professionals throughout Massachusetts. Landscaping should not require watering after plantings have settled in and should emphasize native plants, taking future climate into consideration. Trees should be sized and sited to avoid impacting passive and active solar systems. Choose plantings that will absorb much CO₂. Use perennials rather than digging up beds yearly or seasonally. Lay out any landscaping in ways that make it possible to identify and remove highly problematical invasives such as Asiatic bittersweet, Japanese knotweed, garlic mustard, etc.

11. Community garden: Could be provided for residents of the facility, for all Concord residents, and/or to provide some local food to the facility (perhaps as a public service project—perhaps working with the group home, if any).
12. Funding sources: A DOER grant for net-zero energy buildings (see <http://www.mass.gov/eea/energy-utilities-clean-tech/energy-efficiency/zero-net-energy-bldgs/>) is probably not attainable for the whole site, but might be for the small group home if and when it is built. MassCEC currently has a rebate for air source heat pumps. As it may take some time to obtain funding for the assisted living facility, state and federal grants should be sought at all appropriate points in the timeline. There is currently no Congressional support for federal funding, but with the oncoming wave of senior baby boomers, perhaps some federal agencies will see the need to increase the sustainability of assisted living and of medical practices in general.

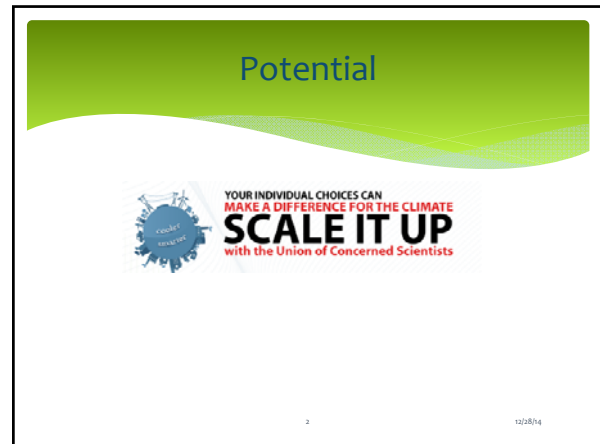
Attachment 2: Slide presentation on GYH marketing program



GREEN YOUR HEAT PILOT
CSEC/CMLP
MARKETING PLAN

Gilda Gussin, M.Ed

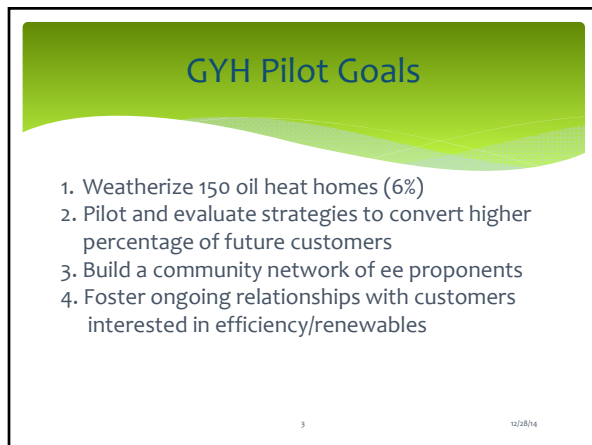
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Potential

YOUR INDIVIDUAL CHOICES CAN
MAKE A DIFFERENCE FOR THE CLIMATE
SCALE IT UP
with the Union of Concerned Scientists

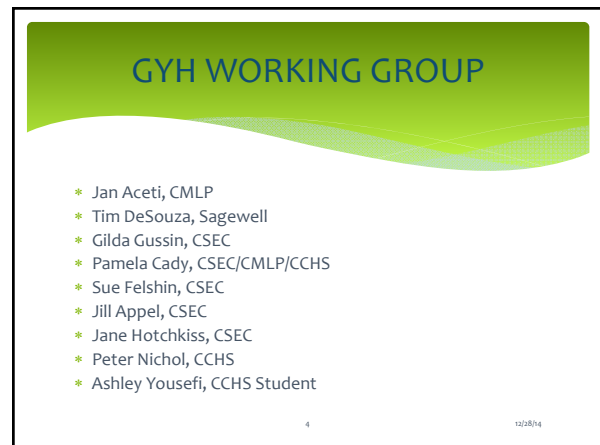
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GYH Pilot Goals

1. Weatherize 150 oil heat homes (6%)
2. Pilot and evaluate strategies to convert higher percentage of future customers
3. Build a community network of ee proponents
4. Foster ongoing relationships with customers interested in efficiency/renewables

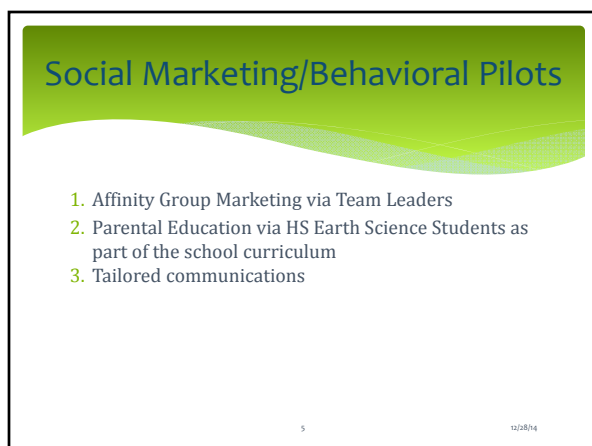
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GYH WORKING GROUP

- * Jan Aceti, CMLP
- * Tim DeSouza, Sagewell
- * Gilda Gussin, CSEC
- * Pamela Cady, CSEC/CMLP/CCHS
- * Sue Felshin, CSEC
- * Jill Appel, CSEC
- * Jane Hotchkiss, CSEC
- * Peter Nichol, CCHS
- * Ashley Yousefi, CCHS Student

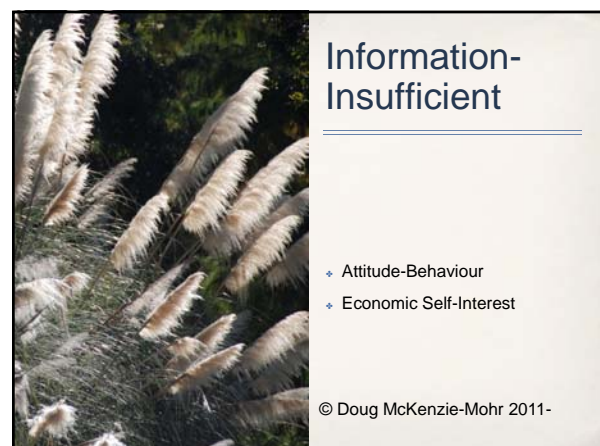
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Social Marketing/Behavioral Pilots

1. Affinity Group Marketing via Team Leaders
2. Parental Education via HS Earth Science Students as part of the school curriculum
3. Tailored communications

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Information-Insufficient

- * Attitude-Behaviour
- * Economic Self-Interest

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What's really going on?

- ♦ Habits
- ♦ Social Norms
- ♦ Context/Environment
- ♦ Perspective
- ♦ Labels
- ♦ Emotions

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Community-Based Social Marketing Process



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Social Marketing Tools

- ♦ Commitment
- ♦ Social Norms
- ♦ Social Diffusion
- ♦ Prompts
- ♦ Vivid Communication
- ♦ Incentives
- ♦ Modeling
- ♦ Goal Setting
- ♦ Feedback

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Barriers

- * It's too expensive, even with the town rebate (50% up to \$1000)
- * It's too complicated, messy SAGEWELL
- * I don't have the time SAGEWELL
- * Energy efficiency won't help reduce climate change
- * I plan to sell my home so I won't get the ROI
- * My home is already weatherized
- * I have the skills to weatherize my home myself
- * The savings aren't worth the trouble
- * Other _____

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Benefits

- * The town is providing a limited time rebate (50% up to \$1000)
- * I can save up to 20% on my heating bills
- * I want my family to be more comfortable at home
- * It's an easy way to reduce my carbon footprint
- * The more energy we save, the fewer power plants we will need.
- * I want to protect the health and well being of future generations
- * It will help with resale value of my home
- * Others I know are happy with the results
- * Other _____

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1. AFFINITY GROUP MARKETING

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Role of AG Team Leaders

Each affinity group needs a team leader to:

- * Oversee all marketing initiatives
- * INFLUENCE members to participate
- * Attend GYH marketing training sessions
- * Distribute and tailor communications
- * Share ideas and best practices
- * Conduct marketing events
- * Help insure that members who get assessments follow through with weatherization

Team Leader Tool Kit

- * Training Program for Team Leaders
- * [GYH 15 minute presentation](#)
- * Communications
 - * [Flyer](#), CJ articles, FAQs, follow up emails
 - * [Story template](#) addressing barriers, benefits
- * [Social Marketing Checklist](#)
- * Tabling event kit (poster of thermal image, access to thermal image, instant sign up)
- * GYH Web site, including progress meter
- * Tools to recognize participation (eg. stickers for recycling bins)
- * MORE TO COME FROM TEAM LEADERS!

Evaluation Plan

Process

- * Survey Monkey, Team Leaders
- * Interviews, Team Leaders
- * Use of specific social marketing tools

Outcomes (from Sagewell data)

- * # of active team leaders
- * # of people who sign up for GYH assessment
- * # of people who follow through with weatherization

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Discuss

1. Team Leader Recruitment
2. Which affinity groups are important to recruit?
3. [Invitation to Team Leaders](#)
4. Motivation for team leaders
5. How to sustain team leader involvement
6. Comparison to peers??
7. Prizes for successful teams

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PARENT EDUCATION delivered by
9th grade earth science students

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Tools

- * Curriculum—Presentation Slides, HVAC Carbon Reduction Worksheet, Role Play Delivery to Parents
- * Schools Program map
- * Poster to Track Progress
- * Social Marketing Checklist
- * Parent Surveys
- * Video interview with Ray Pavlik, ES Teacher

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Discuss

1. Parents may view program as interference
2. Students may be discouraged if parents won't participate

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Evaluation Plan

Process

- Survey Monkey, Student Experience
- Survey Monkey, All Parents GYH barriers & benefits
- Survey Monkey, Parents who sign up for assessments, Customer Experience, Weatherization barriers & benefits
- Interviews, ES Teachers

Outcomes

- % students who believe climate change is important and they can do something about it (confidence and conviction scale pre-post)
- % students who are GYH advocates
- % of parents who sign up for assessments/weatherization

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Pilot Evaluation Questions

- * What worked and what didn't? (Mistakes will be made!)
- * Do the outcomes indicate that the pilots are worth scaling?
- * What will it take to scale these programs?
- * What is the ROI?

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TAILORED COMMUNICATIONS

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Tailored Messages

Invitations and Follow up tailored to the interests of certain groups
Audiences

- * Customers who had solar assessments, bw bylaw supporters—Jill
- * Owners of inefficient homes—high school students? CMLP?
- * Owners of large homes—Team leaders in key neighborhoods
- * Message from bank? You can save money...
- * Municipal employees—Chris Whelan In Concord?
- * Hospital, School employees
- * [Sample Tailored Letter](#)

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COMMUNITY WIDE MARKETING

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Community Wide Media

1. Concord Journal Articles
 - * Program Introduction: January
 - * Team leader commitments and reasons for participation: February
 - * 9th grade student survey on reasons for energy efficiency: March
 - * Interviews with opinion leaders re: weatherization: April
2. Program materials to distribution list
3. Video interviews with opinion leaders, team leaders
4. Progress monitor

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Community Wide Events

1. Earth Day Parade: April
2. Town Meeting: April
3. July 4
4. Ag Day: August
5. Back to School Night: September
- ??? Other events in late fall

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Marketing Schedule

- * Tailored communications: mid January
- * Recruit affinity group leaders: mid January
- * Program launch: January 29
- * Affinity Group Tool kit ready: 3rd week January
- * Train affinity group leaders:; end of January
- * ES School Tools ready: January 29
- * ES School program: beginning February 23
- * Affinity group activity: Feb–April, Oct–Jan

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Discuss: CSEC Roles

Review Marketing Plan/Materials	2-3 people?
Recruit affinity group team leaders	Jane, Jill
Encourage, acknowledge, monitor	CSEC
Video Interviews w Opinion Leaders, Team Leaders	Mark?
Produce graphics for posters, brochures	Vendor
Community Wide Marketing Events	??
Program Evaluation Lead	??

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Professional Ads



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Professional Ads



Energy Action at Home, NYSDERA

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Ongoing EE

- * Strategic Plan w key stakeholders in near future—policy, infrastructure, behavioral
- * Grants, Mechanism for ongoing efficiency initiatives—EE savings? Peak demand enrollment? Green Communities?
- * Leverage trust/grant money to maximize CO₂ reduction via EE:
- * Require behavioral interventions when giving money for infrastructure improvements
- * EE requirements for new construction (Sue)
- * EE requirements at decision points (e.g., new heating system)
- * Ongoing customer relationships
- * Consider EE & real estate values
- * Behavioral EE in schools (Acton program saves xx), hospital, business

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